SEQUENCE LISTING

<110>   BAROJA FERNANDEZ, Miren Edurne
         MUNOZ PEREZ, Francisco Jose
         POZUETA ROMERO, Francisco Javier
         MORAN ZORZANO, Maria Teresa
         ALONSO CASAJUS, Nora

<120>   METHOD OF PRODUCTION OF RECOMBINANT SUCROSE SYNTHASE, USE
         THEREOF IN THE MANUFACTURE OF KITS FOR DETERMINATION OF SUCROSE,
         PRODUCTION OF ADPGLUCOSE AND PRODUCTION OF TRANSGENIC PLANTS
         WHOSE LEAVES AND STORAGE ORGANS ACCUMULATE HIGH CONTENTS OF
         ADPGLUCOSE AND STARCH

<130>   U 016405-8

<140>   10/587,372
<141>   2008-06-12

<160>   12

<170>   PatentIn version 3.3

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<213>  Solanum tuberosum


<220>
<223>  SSX fused with a histidine-rich amino acid tail deducted after
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                20                  25                  30


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            35                  40                  45


Arg Glu Arg Val Asp Ala Thr Leu Ala Ala His Arg Asn Glu Ile Leu
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Leu Phe Leu Ser Arg Ile Glu Ser His Gly Lys Gly Ile Leu Lys Pro
65                  70                  75                  80


His Glu Leu Leu Ala Glu Phe Asp Ala Ile Arg Gln Asp Asp Lys Asn
                85                  90                  95


Lys Leu Asn Glu His Ala Phe Glu Glu Leu Leu Lys Ser Thr Gln Glu
                100                 105                 110


Ala Ile Val Leu Pro Pro Trp Val Ala Leu Ala Ile Arg Leu Arg Pro
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Gly Val Trp Glu Tyr Ile Arg Val Asn Val Asn Ala Leu Val Val Glu
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Thr Ala Ser Phe Pro Lys Pro Thr Leu Thr Lys Ser Ile Gly Asn Gly
                180   185   190

Val Glu Phe Leu Asn Arg His Leu Ser Ala Lys Met Phe His Asp Lys
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Glu Ser Met Thr Pro Leu Leu Glu Phe Leu Arg Ala His His Tyr Lys
        210   215   220

Gly Lys Thr Met Met Leu Asn Asp Arg Ile Gln Asn Ser Asn Thr Leu
225   230   235   240

Gln Asn Val Leu Arg Lys Ala Glu Glu Tyr Leu Ile Met Leu Ser Pro
                245   250   255

Asp Thr Pro Tyr Phe Glu Phe Glu His Lys Phe Gln Glu Ile Gly Leu
                260   265   270

Glu Lys Gly Trp Gly Asp Thr Ala Glu Arg Val Leu Glu Met Val Cys
        275   280   285

Met Leu Leu Asp Leu Leu Glu Ala Pro Asp Ser Cys Thr Leu Glu Lys
        290   295   300

Phe Leu Gly Arg Ile Pro Met Val Phe Asn Val Val Ile Leu Ser Pro
305   310   315   320

His Gly Tyr Phe Ala Gln Glu Asn Val Leu Gly Tyr Pro Asp Thr Gly
                325   330   335

Gly Gln Val Val Tyr Ile Leu Asp Gln Val Pro Ala Leu Glu Arg Glu
                340   345   350

Met Leu Lys Arg Ile Lys Glu Gln Gly Leu Asp Ile Ile Pro Arg Ile
        355   360   365

Leu Ile Val Thr Arg Leu Leu Pro Asp Ala Val Gly Thr Thr Cys Gly
        370   375   380

Gln Arg Ile Glu Lys Val Tyr Gly Ala Glu His Ser His Ile Leu Arg
385   390   395   400
                              Page 4

Val Pro Phe Arg Thr Glu Lys Gly Ile Val Arg Lys Trp Ile Ser Arg
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Phe Glu Val Trp Pro Tyr Met Glu Thr Phe Ile Glu Asp Val Ala Lys
            420   425   430

Glu Ile Ser Ala Glu Leu Gln Ala Lys Pro Asp Leu Ile Ile Gly Asn
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Tyr Ser Glu Gly Asn Leu Ala Ala Ser Leu Leu Ala His Lys Leu Gly
    450   455   460

Val Thr Gln Cys Thr Ile Ala His Ala Leu Glu Lys Thr Lys Tyr Pro
465   470   475   480

Asp Ser Asp Ile Tyr Trp Lys Lys Phe Asp Glu Lys Tyr His Phe Ser
            485   490   495

Ser Gln Phe Thr Ala Asp Leu Ile Ala Met Asn His Thr Asp Phe Ile
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Ile Thr Ser Thr Phe Gln Glu Ile Ala Gly Ser Lys Asp Thr Val Gly
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Gln Tyr Glu Ser His Met Ala Phe Thr Met Pro Gly Leu Tyr Arg Val
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Val His Gly Ile Asn Val Phe Asp Pro Lys Phe Asn Ile Val Ser Pro
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Gly Ala Asp Ile Asn Leu Tyr Phe Ser Tyr Ser Glu Thr Glu Lys Arg
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Leu Thr Ala Phe His Pro Glu Ile Asp Glu Leu Leu Tyr Ser Asp Val
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Glu Asn Asp Glu His Leu Cys Val Leu Lys Asp Arg Thr Lys Pro Ile
    595   600   605

Leu Phe Thr Met Ala Arg Leu Asp Arg Val Lys Asn Leu Thr Gly Leu
    610   615   620

Val Glu Trp Tyr Ala Lys Asn Pro Arg Leu Arg Gly Leu Val Asn Leu
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                    Page 5

                    645   650   655

Gln Ala Glu Met Lys Lys Met Tyr Glu Leu Ile Glu Thr His Asn Leu
            660   665   670

Asn Gly Gln Phe Arg Trp Ile Ser Ser Gln Met Asn Arg Val Arg Asn
            675   680   685

Gly Glu Leu Tyr Arg Tyr Ile Ala Asp Thr Lys Gly Ala Phe Val Gln
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Pro Ala Phe Tyr Glu Ala Phe Gly Leu Thr Val Val Glu Ala Met Thr
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Cys Gly Leu Pro Thr Phe Ala Thr Asn His Gly Gly Pro Ala Glu Ile
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Ile Val His Gly Lys Ser Gly Phe His Ile Asp Pro Tyr His Gly Glu
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Gln Ala Ala Asp Leu Leu Ala Asp Phe Phe Glu Lys Cys Lys Lys Glu
            755   760   765

Pro Ser His Trp Glu Thr Ile Ser Thr Gly Gly Leu Lys Arg Ile Gln
    770   775   780

Glu Lys Tyr Thr Trp Gln Ile Tyr Ser Glu Arg Leu Leu Thr Leu Ala
785   790   795   800

Ala Val Tyr Gly Phe Trp Lys His Val Ser Lys Leu Asp Arg Leu Glu
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Ala Glu Ala Val Pro Leu Ala Ala Glu
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<213>   Solanum tuberosum

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<212> DNA
<213> Solanum tuberosum

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<212> DNA
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<211> 42
<212> DNA
<213> Solanum tuberosum

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<211> 76
<212> DNA
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      production of SS5

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<211> 76
<212> DNA
<213> Solanum tuberosum

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      production of SS5

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gaacttgtcg acggagcctc gaatggaaat ttcgttctcg agttggattt cgagcctttc   420

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gatactccat atttcgaatt cgagcacaag ttccaagaaa tcggattgga gaagggatgg   720

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<211>  841
<212>  PRT
<213>  Solanum tuberosum

<220>
<223>  SS5 fused with a histidine-rich amino acid sequence

<400>  12

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Arg Gly Ser His Met Ala Ser Met Thr Gly Gly Gln Gln Met Gly Arg
              20              25                  30

Gly Ser Glu Phe Met Ala Glu Arg Val Leu Thr Arg Val His Ser Leu
          35              40              45

Arg Glu Arg Val Asp Ala Thr Leu Ala Ala His Arg Asn Glu Ile Leu
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        50                    55                    60
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Leu Phe Leu Ser Arg Ile Glu Ser His Gly Lys Gly Ile Leu Lys Pro
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His Glu Leu Leu Ala Glu Phe Asp Ala Ile Arg Gln Asp Asp Lys Asn
                    85   90   95

Lys Leu Asn Glu His Ala Phe Glu Glu Pro Leu Lys Ser Thr Gln Glu
                100   105   110

Ala Ile Val Leu Pro Pro Trp Val Ala Leu Ala Ile Arg Leu Arg Pro
                115   120   125

Gly Val Trp Glu Tyr Ile Arg Val Asn Val Asn Ala Leu Val Val Glu
                130   135   140

Glu Leu Ser Val Pro Glu Tyr Leu Gln Phe Lys Glu Glu Leu Val Asp
145   150   155   160

Gly Ala Ser Asn Gly Asn Phe Val Leu Glu Leu Asp Phe Glu Pro Phe
                165   170   175

Thr Ala Ser Phe Pro Lys Pro Thr Leu Thr Lys Ser Ile Gly Asn Gly
                180   185   190

Val Glu Phe Leu Asn Arg His Leu Ser Ala Lys Met Phe His Asp Lys
                195   200   205

Glu Ser Met Thr Pro Leu Leu Glu Phe Leu Arg Ala His His Tyr Lys
    210   215   220

Gly Lys Thr Met Met Leu Asn Asp Arg Ile Gln Asn Ser Asn Thr Leu
225   230   235   240

Gln Asn Val Leu Arg Lys Ala Glu Glu Tyr Leu Ile Met Leu Ser Pro
                245   250   255

Asp Thr Pro Tyr Phe Glu Phe Glu His Lys Phe Gln Glu Ile Gly Leu
                260   265   270

Glu Lys Gly Trp Gly Asp Thr Ala Glu Arg Val Leu Glu Met Val Cys
                275   280   285

Met Leu Leu Asp Leu Leu Glu Ala Pro Asp Ser Cys Thr Leu Glu Lys
    290   295   300

Phe Leu Gly Arg Ile Pro Met Val Phe Asn Val Val Ile Leu Ser Pro
305   310   315   320

His Gly Tyr Phe Ala Gln Glu Asn Val Leu Gly Tyr Pro Asp Thr Gly
                325   330   335

Gly Gln Val Val Tyr Ile Leu Asp Gln Val Pro Ala Leu Glu Arg Glu
                340   345   350

Met Leu Lys Arg Ile Lys Glu Gln Gly Leu Asp Ile Ile Pro Arg Ile
            355   360   365

Leu Ile Val Thr Arg Leu Leu Pro Asp Ala Val Gly Thr Thr Cys Gly
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Gln Arg Ile Glu Lys Val Tyr Gly Ala Glu His Ser His Ile Leu Arg
385   390   395   400

Val Pro Phe Arg Thr Glu Lys Gly Ile Val Arg Lys Trp Ile Ser Arg
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Phe Glu Val Trp Pro Tyr Met Glu Thr Phe Ile Glu Asp Val Ala Lys
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Glu Ile Ser Ala Glu Leu Gln Ala Lys Pro Asp Leu Ile Ile Gly Asn
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Tyr Ser Glu Gly Asn Leu Ala Ala Ser Leu Leu Ala His Lys Leu Gly
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Val Thr Gln Cys Thr Ile Ala His Ala Leu Glu Lys Thr Lys Tyr Pro
465   470   475   480

Asp Ser Asp Ile Tyr Trp Lys Lys Phe Asp Glu Lys Tyr His Phe Ser
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Ser Gln Phe Thr Ala Asp Leu Ile Ala Met Asn His Thr Asp Phe Ile
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Ile Thr Ser Thr Phe Gln Glu Ile Ala Gly Ser Lys Asp Thr Val Gly
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Gln Tyr Glu Ser His Met Ala Phe Thr Met Pro Gly Leu Tyr Arg Val
    530   535   540

Val His Gly Ile Asn Val Phe Asp Pro Lys Phe Asn Ile Val Ser Pro
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Page 11

Gly Ala Asp Ile Asn Leu Tyr Phe Ser Tyr Ser Glu Thr Glu Lys Arg
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Leu Thr Ala Ser His Pro Glu Ile Asp Glu Leu Leu Tyr Ser Asp Val
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Glu Asn Asp Glu His Leu Cys Val Leu Lys Asp Arg Thr Lys Pro Ile
        595   600   605

Leu Phe Thr Met Ala Arg Leu Asp Arg Val Lys Asn Leu Thr Gly Leu
    610   615   620

Val Glu Trp Tyr Ala Lys Asn Pro Arg Leu Arg Gly Leu Val Asn Leu
625   630   635   640

Val Val Val Gly Gly Asp Arg Arg Lys Glu Ser Lys Asp Leu Glu Glu
                645   650   655

Gln Ala Glu Met Lys Lys Met Tyr Glu Leu Ile Glu Thr His Asn Leu
            660   665   670

Asn Gly Gln Phe Arg Trp Ile Ser Ser Gln Met Asn Arg Val Arg Asn
        675   680   685

Gly Glu Leu Tyr Arg Tyr Ile Ala Asp Thr Lys Gly Ala Phe Val Gln
    690   695   700

Pro Ala Phe Tyr Glu Ala Phe Gly Leu Thr Val Val Glu Ala Met Thr
705   710   715   720

Cys Gly Leu Pro Thr Phe Ala Thr Asn His Gly Gly Pro Ala Glu Ile
            725   730   735

Ile Val His Gly Lys Ser Gly Phe His Ile Asp Pro Tyr His Gly Glu
            740   745   750

Gln Ala Ala Asp Leu Leu Ala Asp Phe Phe Glu Lys Cys Lys Arg Glu
        755   760   765

Pro Ser His Trp Glu Thr Ile Ser Thr Asp Gly Leu Lys Arg Ile Gln
770   775   780

Glu Lys Tyr Thr Trp Gln Ile Tyr Ser Glu Arg Leu Leu Thr Leu Ala
785   790   795   800

Ala Val Tyr Gly Phe Trp Lys His Val Ser Lys Leu Asp Arg Leu Glu
        805   810   815

Ile Arg Arg Tyr Leu Glu Met Phe Tyr Ala Leu Lys Tyr Arg Lys Met
            820   825   830

Ala Glu Ala Val Pro Leu Ala Ala Glu
            835   840